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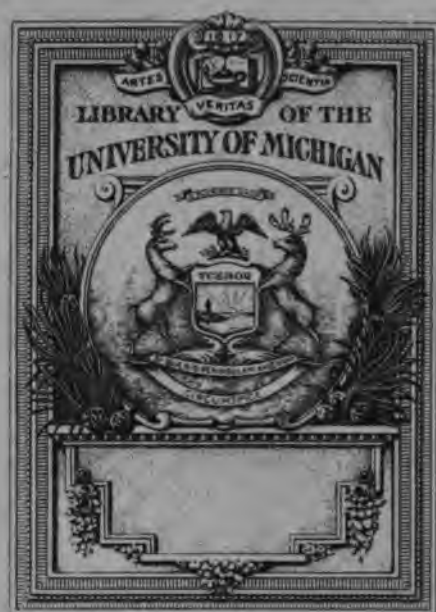
ANNUAL REPORT

Board of Public Works

DETROIT, MICH.

1897-8.

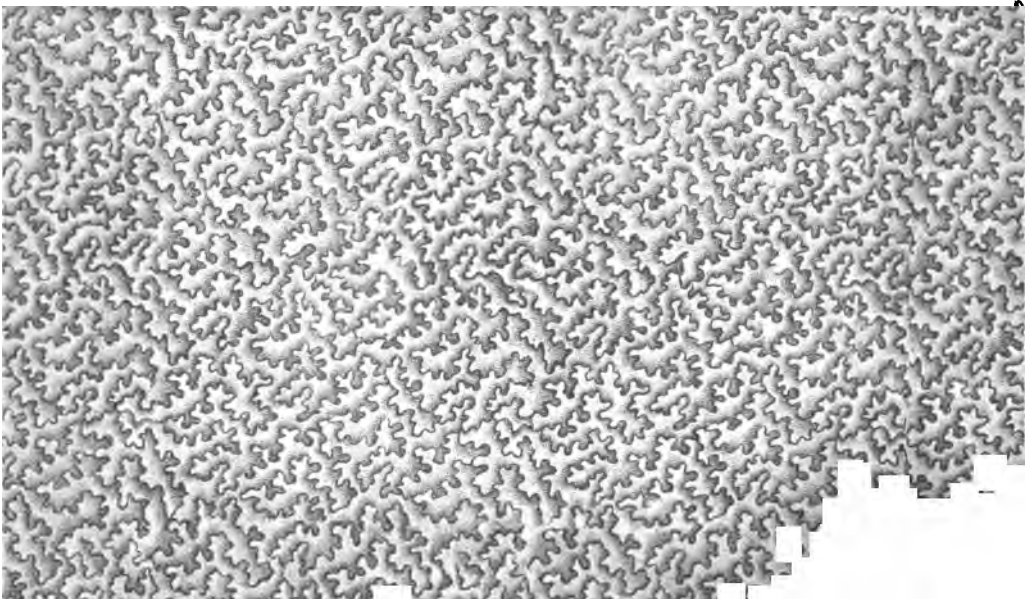
Levi L. Barbour.





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TWENTY-FOURTH ANNUAL REPORT

OF THE

BOARD OF PUBLIC WORKS

OF THE

CITY OF DETROIT,



SHOWING



THE WORK DONE,

AND

Receipts and Expenditures for the Fiscal Year Ending
June 30, 1898.



DETROIT:
THE THOS. SMITH PRESS,
1898.



General Lib.
9-11-33

BOARD OF PUBLIC WORKS.



MEMBERS.

D. W. H. MORELAND.

HERMAN KALLMAN.

JAMES W. MILLEN.

OFFICERS.

D. W. H. MORELAND,	-	-	-	-	-	President
HERMAN KALLMAN,	-	-	-	-	:	Vice-President
ROBERT Y. OGG,	-	-	-	-	-	Secretary
HENRY D. LUDDEN,	-	-	-	-	-	City Engineer
JAMES C. OLDFIELD,	-	-	-	-	.	Chief Clerk

MEMBERS OF BOARD OF PUBLIC WORKS SINCE ORGANIZATION.

The Board of Public Works was established by an act of the State Legislature, approved April 29, 1873, and was organized for business March 1, of that year. The names of members and the years in which they served may be seen by the following table :

NAME.	YEAR.
Harvey King.....	1874, 1875.
Nicol Mitchell.....	1874, 1875, 1876, 1877.
Alexander Chapoton.....	1874, 1875, 1876, 1877, 1878.
Stanley G. Wight.....	1884, 1885, 1886, 1887.
William Purcell.....	1876.
Frederick Ruehle.....	1877, 1878, 1879.
William H. Langley*.....	1878, 1879, 1880, 1881.
Benj. Briscoe.....	1879, 1880, 1881, 1882, 1883, 1884.
John B. Stoutenburg.....	1885, 1886, 1887, 1888, 1889, 1890.
Thomas McGrath.....	1880, 1881, 1882, 1883.
James Hanley†.....	1882, 1883, 1884, 1885.
Michael J. Griffin‡.....	1886, 1887, 1888, 1889.
Jacob Guthard¶.....	1888, 1889, 1890.
John B. Mulliken**.....	1890, 1891.
John McVicar***.....	1890, 1891, 1892, 1893, 1894, 1895, 1896.
James Dean§.....	1891, 1892, 1893, 1894, 1895.
D. W. H. Moreland.....	1896, 1897, 1898.
Herman Kallman.....	1897, 1898.
James W. Millen.....	1898.

*Died in Chicago, June 27, 1890, while in office.

†Resigned October 21, 1890, to run for Sheriff.

‡Resigned April 30, 1891, to attend to private business.

¶Appointed to fill out W. H. Langley's unexpired term, and for full term from January, 1893.

**Appointed to fill out James Hanley's unexpired term.

***Appointed to fill vacancy made by resignation of M. J. Griffin, and for full term from January, 1892.

§Appointed to fill vacancy made by resignation of J. B. Mulliken, and for full term from January, 1892.

BOARD OF PUBLIC WORKS OFFICE, }
DETROIT, June 30, 1898. }

To the Honorable, the Board of Public Works:

GENTLEMEN—I herewith submit a statement showing the receipts and expenditures of the Board in its various departments, as well as work done during the fiscal year ending June 30, 1898.

Respectfully,

ROBERT Y. OGG,
Secretary.

TWENTY-FOURTH ANNUAL REPORT

OF THE

Board of Public Works,

OF THE

CITY OF DETROIT.

1897-8.



BOARD OF PUBLIC WORKS OFFICE, }
DETROIT, June 30, 1898. }

To the Honorable, the Common Council :

GENTLEMEN—As required by the Act creating it, the Board of Public Works herewith submits its twenty-fourth annual report, covering the fiscal year ending June 30, 1898.

PAVING.

The paving done during the fiscal year 1897-8 was nearly 21 miles, or to be exact, 20.922, making the total paved mileage of the city a fraction less than 250. The paving done during the preceding year was 19.033 miles. The cost of paving has been less for all kinds of material used than in 1896-97.

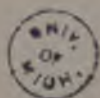
The gross cost per square yard for cedar block on concrete was \$1.34 for new and \$1.12 for repaving, as compared with \$1.52 and \$1.19 for the preceding year. Brick on concrete is figured out at \$2.04 for new and \$1.65 for repaving, as compared with \$2.18 and \$1.82 the previous season.

The prices were remarkably low, some of the contractors claiming that their profits were only from two to five per cent. Others who did not get but very few streets contended that the lowest bidders must certainly lose money. The inspection was just as rigid as if the price was double, and the property owners on streets paved for the first time can feel assured that they have got good pavement at very reasonable figures, and citizens generally can congratulate themselves that the repaving, which comes out of the general tax fund, is as good as the best work ever laid. The amount of new work was 14.276 miles and repaving footed up 6.646.

The majority of the work done was with cedar blocks on concrete foundation. The new work covered 13.206 miles and the repaving 4.651 miles, a total of 17.857 out of a grand total of 20.922 for all kinds of paving. The total would have been swelled several miles more but for the trouble which arose with the Council over the brick problem. There were three new streets paved with brick and five streets repaved.



ADAMS AVENUE WEST—PAVED WITH NELSONVILLE BRICK IN 1893.



Early in the season of '98 the Board discussed the question of brick paving with the Common Council Committee on Streets, and an agreement was reached that Nelsonville, Metropolitan, Athens, Union Paver and Buckeye should be the kinds of brick to be used. Two members of the committee went back on their agreement with the Board and instituted a fight in the Council to admit all brick which had passed a rattler test conducted by the City Engineer. This covered 14 kinds of brick, many of which were considered inferior by the Board, and the Commissioners decided that Detroit should have good paving or no work would be done. The position of the Board was sustained by the legal authorities of the City, many of the Alderman and the Charter itself.

The Board of Estimates allowed \$57,000 for repaving with brick on concrete the following streets: Atwater, Chene to Joseph Campau; Cass, Lafayette, to Michigan; Franklin, Brush to Hastings; Franklin, Hastings to Dequindre; First, Jefferson to Fort; Montcalm, Brush to Antoine; Rivard, Jefferson to Fort; Second, Front to Michigan. The money allowed by the estimators for this work was collected for that purpose and could not be used for anything else.

The Board contended for its position, but failed to convert a majority of the Alderman to their way of thinking. But not desiring to see the tax collected for brick paving go into the sinking or contingent funds and be converted to other uses, the Board concluded just as the fiscal year closed that the Council should take all responsibility, and a communication was forwarded conveying the wishes of the Board, that for the eight streets named above that all brick should be admitted and a ten-year guarantee exacted. The probabilities are that our next annual report will show a goodly number of miles of brick paving, but some of it may be of questionable quality for the reasons stated above.

Right here it may not be out of place to say, that the fiscal year beginning July 1, does not give us an opportunity to show up the work for a full season and make comparisons with preceding seasons. Our report gives you the work of the last half of the season of 1897, and the first half of the season of 1898, breaking off right in the

middle of the Summer's work. If the charter could be changed to make the fiscal year begin January 1 instead of July 1, the Board would feel that their work would be shown up better than by cutting the seasons in two.

The various methods of testing brick having proved unsatisfactory, the Board inaugurated a new idea in the matter of testing material which met the approval of contractors and citizens generally. The 14 kinds of brick which passed the rattler test (which, by the way, does not show the absorption or freezing test), were laid on Franklin street, between Beaubien and Antoine streets, under the supervision of the Board. Franklin street is down by the river front and close to the freight depots of three railroads. All teams going and coming will use that street, and the test to which the bricks will be put during the fall, winter and spring will give the people of Detroit a thorough knowledge of the best brick for wear that will be worth more than the tests of a thousand rattlers. On another page is given a sketch of Franklin Street and the manner in which the Brick is laid.

THE REPAVING FUND.

The expenditures from the Repaving Fund for the fiscal year 1897-8 were as follows :

Jefferson avenue, Mt. Elliott to Boulevard, first to final estimate.....	\$ 23,710 42
Champlain street, Rivard to Elmwood, first to final estimate	15,393 41
Larned street, Woodward to Third, first to final estimate	14,920 46
Park street, Adams to Peterboro, first to final estimate	11,417 81
Sixteenth street, Bagg to Grand River, second to final estimate	10,950 93
Chene street, Sec. 1, Jefferson to Sherman, first to final estimate.....	8,812 01
Chene street, Sec. 2, Sherman to Gratiot, first to final estimate	8,816 39
Riopelle street, High to Scott, first to final estimate	8,421 22
Randolph street, dock to Congress street, first to final estimate	8,409 74
Riopelle street, Jefferson to Monroe, first to final estimate	7,784 90
Seventh street, River street to Porter, first to final estimate	5,415 56
Beaubien street, Fort to Gratiot, third and final estimate	5,408 10
Beaubien street, Gratiot to Adams, first to final estimate	3,142 65
Cass street, Jefferson to Fort, first to final estimate	6,190 09
Elizabeth street, Beaubien to Hastings, first to final estimate	3,438 17
High street, Woodward to Beaubien, second and final estimate	2,712 14
Hastings street, Jefferson to Congress, second and final estimate.....	1,904 26
Twentieth street, M. C. R. R. to Michigan avenue, second and final estimate.	1,017 48
Twelfth street, Merrick to railroad, second and final estimate	2,110 51



BAGGS STREET, WEST FROM WOODWARD—PAVED WITH NELSONVILLE BRICK IN 1893.



BOARD OF PUBLIC WORKS.

11

Bates street, Cadillac Square to Randolph, second and final estimate.....	651 41
Beaubien street, Atwater to Jefferson, first estimate	2,500 00
Columbia street, Woodward to Antoine, first estimate	3,500 00
Fort street, Twelfth to Eighteenth streets, first estimate	6,000 00
Brick	1,782 00
Labor, piling brick	73 50
Freight on brick for test.....	238 96
Apparatus for brick test	111 83
Cement	64 10
Extras on contracts	162 31
Repairs to asphalt pavements at intersections, etc.	742 98
Labor, dressing and cutting stone, etc.....	3,495 01
Pay roll, inspectors of repaving.....	4,287 86
Labor, setting circle curb on Jefferson avenue	128 26
Hauling old material from streets and care of same	1,276 29
Curbstone	635 90
Tools and repairs to tools	167 11
Controller's note and interest.....	23,683 07
Total	\$199,456 84

On the following pages are the tables showing the paving and repaving done during the fiscal year :

STREETS PAVED DURING

STREET OR AVENUE PAVED.	Contractor.	Style of Pavement.	Length, Feet.	Width, Feet.	Excavation, Cubic Yards.
Seventh, from Lysander to Kirby	Mich. Stone & Supply Co.	Cedar on concr.	2,501.76	26	3,822.00
Wilkins, from Brush to Hastings	Mich. Stone & Supply Co.	"	1,411.59	26	1,792.00
Avery, from Grand River to Kirby	Geo. E. Currie...	"	4,171.67	28	6,347.00
Elmwood, from Clinton to Water- loo	Geo. E. Currie...	"	2,274.10	20	3,317.00
Junction (lot 8 Brush sub. of p. c. 206), to Michigan	Geo. E. Currie...	"	2,282.71	36	4,251.00
Wabash, from Myrtle to Laurel	Archd. Grant...	"	306.26	26	607.00
Wabash, from Laurel to Grand River	Archd. Grant...	"	2,285.00	26	3,257.00
Theodore, from John R. to Brush farm	James Grant....	"	790.00	26	1,168.00
Willis, from Brush farm to Brush street	Henry Meridian..	"	300.00	26	492.00
Baltimore, from Woodward to Forsyth	Mich. Stone & Supply Co.	"	2,230.00	26	3,265.00
Ash, from Sixteenth to Vine- wood	Mich. Stone & Supply Co.	"	4,156.54	28	6,946.00
Pennsylvania, from Jefferson to Kercheval	H. L. Talbot....	"	1,507.69	26	1,762.00
Holden, from Lincoln to Boule- vard	Talbot Paving Co	"	1,732.80	30	3,007.00
Helen, from Gratiot to Boule- vard	Talbot Paving Co	"	3,044.93	26	4,699.00
Miller, from Sixth to Seventh...	James Grant....	"	456.00	22	619.00
Laurel, from Grand River to Wabash	Talbot Paving Co	"	1,758.87	26	3,029.00
Marcy, from Fourth to Sixth....	James Grant....	"	636.21	20	883.00
Koch, from Woodward to Oak- land	Henry Meridian..	"	2,653.21	26	3,670.00
Park View, from Jefferson to Mc- Clellan, sewer outlet	Talbot Paving Co	"	731.70	28	246.00
Townsend, from Jefferson to St. Paul	T. J. Kennedy...	"	2,403.78	26	3,609.00
Lysander, from Fourth to Grand River	Geo. E. Currie...	"	3,892.50	26	6,135.00
Bellevue, from Jefferson to Champlain	Talbot Paving Co	"	1,233.45	26	1,946.00
Bellevue, from Champlain to Kercheval	Talbot Paving Co	"	2,121.20	26	2,980.00
Eighth, from Grand River to Noble	Talbot Paving Co	"	103.45	22	124.64
Noble, from Fourth to Eighth...	Talbot Paving Co	"	1,326.77	22	1,714.00
Concord, from Kercheval to Mack	Wm. Lappin....	"	3,536.60	26	3,995.00

THE FISCAL YEAR 1897-8.

Curbstone, Lineal Feet.	Paving, Square Yards.	Inspection and Advertising.	Cost of Paving Assessment District.	Cost of Paving Intersections.	Total Cost.	When Contract Confirmed.	When Pavement Accepted.
4,820.56	7,246.20	\$ 257 00	\$ 8,154 40	\$ 1,371 63	\$ 9,783 03	June 1, 1897	July 20, 1897
2,771.18	4,088.22	163 00	4,729 09	382 01	5,274 10	June 8, 1897	Aug. 10, 1897
8,219.35	13,017.42	431 00	14,024 23	2,010 73	16,465 96	June 22, 1897	Aug. 3, 1897
4,198.54	5,058.14	191 00	6,223 66	737 56	7,152 22	June 29, 1897	Aug. 10, 1897
4,262.86	9,138.61	314 00	9,171 70	1,225 65	10,711 35	July 20, 1897	Aug. 24, 1897
554.00	890.49	67 00	1,095 33	118 14	1,280 47	July 20, 1897	Sept. 7, 1897
4,287.19	6,612.28	238 00	7,989 52	891 17	9,118 69	July 20, 1897	Sept. 7, 1897
1,615.79	2,309.43	110 00	2,981 02	224 05	3,315 07	July 20, 1897	Aug. 24, 1897
583.95	861.36	66 00	1,113 63	99 43	1,279 06	July 20, 1897	Aug. 10, 1897
4,246.57	6,366.02	231 00	7,329 12	706 82	8,266 94	July 20, 1897	Sept. 7, 1897
7,334.72	12,952.13	429 00	13,310 60	2,724 73	16,464 33	July 27, 1897	Sept. 28, 1897
2,983.40	4,361.80	171 00	5,391 20	191 03	5,753 23	July 27, 1897	Sept. 7, 1897
3,154.01	5,777.22	214 00	6,224 46	858 46	7,296 92	Aug. 3, 1897	Oct. 12, 1897
5,639.16	8,807.17	304 00	9,816 01	1,616 93	11,736 94	Aug. 10, 1897	Oct. 19, 1897
915.88	1,118.31	74 00	1,639 60	135 03	1,848 63	Aug. 10, 1897	Sept. 7, 1897
3,279.12	5,091.62	193 00	5,828 76	1,038 21	7,059 97	Aug 10, 1897	Oct. 12, 1897
1,243.56	1,420.67	83 00	2,090 29	233 89	2,407 18	Aug. 10, 1897	Sept. 14, 1897
5,037.85	7,669.60	270 00	9,167 24	948 66	10,385 90	Aug. 10, 1897	Sept. 21, 1897
1,473.55	2,282.50	108 00	2,709 19	141 74	2,958 93	Aug. 24, 1897	Nov. 9, 1897
4,687.94	6,961.01	249 00	8,665 15	705 10	9,619 25	Aug. 24, 1897	Nov. 4, 1897
7,077.81	11,203.25	376 00	11,987 56	2,495 27	14,858 83	Aug. 24, 1897	Sept. 30, 1897
2,421.25	3,568.11	148 00	4,581 78	119 89	4,849 67	Aug. 24, 1897	Oct. 26, 1897
4,257.48	6,136.16	224 00	7,884 72	206 74	8,315 46	Aug 24, 1887	Oct. 26, 1897
168.07	253.24	49 00	301 74	51 41	402 15	Aug. 24, 1897	Oct. 12, 1897
2,407.78	2,361.44	138 00	4,245 46	479 29	4,862 75	Aug. 24, 1897	Oct. 12, 1897
6,889.60	10,216.05	347 00	12,660 91	578 59	13,586 50	Sept 1, 1897	Nov, 9, 1897

STREETS PAVED DURING THE

STREET OR AVENUE PAVED.	Contractor.	Style of Pavement.	Length, Feet.	Width, Feet.	Excavation, Cubic Yards.
Tuscola, from Greenwood to Third	Henry Merdian.	Cedar on concr.	741 98	26	1,180 00
Hastings, from Piquette to Boulevard	James Grant....	"	1,192.00	28	1,094.00
Greenwood, from Holden to Boulevard	Archd. Grant....	"	1,526.11	30	2,069.00
Hamilton, from Boulevard to Pingree	Archd. Grant....	"	3,437.92	30	5,745.00
Hazelwood, from proposed Third to proposed Second	James Grant....	"	899.00	26	1 212.00
Warren, from Grand River to Railroad	Geo. E. Currie...	"	337.60	46	339.00
*Warren, from R. R. to Twenty-fourth	Geo. E. Currie...	"	2,738.95	*20	7,156 00
*Warren, from Twenty-fourth to Boulevard	Geo. E. Currie...	"	1,768 09	*20	4,079.00
Dazelle, from Foundry to Twenty-fourth	J.A. Mercier & Co	"	966.58	26	1,025.00
Standish, from Twentieth to Foundry	J.A. Mercier & Co	"	644 21	26	1,241.00
Holcomb, from Jefferson to Houghton	Talbot Paving Co	"	1,121 71	26	2,414.00
Delaware, from Woodward to Third	Archd. Grant....	"	1,740.00	26	2,604.00
Frank, from Fourth to Greenwood	Geo. E. Currie & Co.	"	506.31	26	687 00
Stanley, from Lincoln to Greenwood	Geo. E. Currie & Co.	"	957.08	26	1,534 00
Chandler, from proposed Brush to Oakland	Archd. Grant....	"	1,302 63	26	2,001 00
			69,728 96		108,062.64

*Two roadways each 20 feet wide.
Average gross cost per square yard, \$1.34
Average net cost per square yard 0.81
13.206 miles.

Antoinette, from Woodward to Cass	Sheehan & Co...	Brick on concr.	490 43	26	981.00
Vinewood, from Porter to Baker	J.A. Mercier & Co	"	1,118.35	26	1,683.00
Vinewood, from Baker to Dix	J.A. Mercier & Co	"	315 50	26	451.00
			1,924.28		3,115.00

.364 miles.
Average gross cost per square yard \$2 04.
Average net cost per square yard 1.45.

FISCAL YEAR 1897-8.—Continued.

Curbstone. Lineal Feet.	Paving, Square, Yards.	Inspection and Advertising.	Cost of Paving Assessment District.	Cost of Paving Intersections.	Total Cost.	When Contract Confirmed.	When Pavement Accepted.
1,356.15	2,156.45	\$ 105 00	\$ 2,739 32	\$ 264 01	\$ 3,108 33	Sept. 1, 1897	Oct. 5, 1897
2,292.46	3,712.24	152 00	4,350 47	401 59	4,904 06	Sept. 1, 1897	Nov. 4, 1897
2,847.67	5,099.75	192 00	5,420 04	976 79	6,588 83	Sept. 1, 1897	Oct. 19, 1897
6,228.95	11,470.10	384 00	11,954 91	2,240 78	14,579 69	Sept. 1, 1897	Nov. 4, 1897
1,712.00	2,597 11	118 00	3,441 63	42 95	3,602 58	Sept. 1, 1897	Oct. 19, 1897
595 50	1,136.27	74 00	960 21	373 30	1,407 51	Sept. 1, 1897	Sept. 28, 1897
10,022.66	13,251 16	438 00	15,878 56	2,322 92	18,639 48	Sept. 1, 1897	Oct. 26, 1897
6,462.44	8,510 63	295 00	10,030 41	1,614 35	11,939 76	Sept. 1, 1897	Oct. 26, 1897
1,855.37	2,800 97	124 00	3,213 50	503 00	3,840 50	Sept. 14, 1897	Oct. 19, 1897
1,235 95	1,864.49	96 00	2,339 49	278 75	2,714 24	Sept. 14, 1897	Oct. 26, 1897
2,156.07	3,245.18	137 00	3,984 48	417 09	4,538 57	Sept. 14, 1897	Nov. 16, 1897
3,391.41	5,031.44	191 00	6,319 53	425 74	6,936 27	Sept. 28, 1897	Nov. 23, 1897
994.70	1,469 16	84 00	2,002 18	161 98	2,248 16	May 10, 1898	May 31, 1898
1,875 84	2,768 32	123 00	3,634 84	277 31	4,035 15	May 10, 1898	June 14, 1898
2,605.25	3,763 16	154 00	5,338 48	54 55	5,547 03	May 10, 1898	June 28, 1898
140,163.59	215,545.08	\$ 8,112 00	\$ 250,924 42	\$ 30,647 27	\$ 289,683 69		

1,003 59	1,426.51	98 00	2,496 60	230 83	2,825 43	June 8, 1897	Aug. 10, 1897
2,138.74	3,234.89	169 00	6,033 93	461 46	6,664 39	Sept. 1, 1897	Oct. 19, 1897
602.40	916.22	77 00	1,666 98	172 88	1,916 86	Sept. 1, 1897	Oct. 19, 1897
3,744.73	5,577.62	\$ 344 00	\$ 10,197 51	\$ 865 17	11,406 68		

STREETS REPAVED DURING

NAME OF STREETS OR AVENUES AND LIMITS.	Contractor.	Style of Pavement.	Length, Lineal Feet.	Width, Feet.	New Curb, Lineal Feet.
Beaubien, from Gratiot to Adams	Geo. A. Burch...	Cedar on concr.	903.00	26	1,146.70
Champlain, from Rivard to Elmwood	Geo. E. Currie ..	"	5,669.63	25	5,085.80
Elizabeth, from Beaubien to Hastings	Mich. Stone & Supply Co	"	1,110.00	27	791.20
Riopelle, from High to Scott	Wm. Lappin.....	"	2,689.00	24	3,671.60
Park, from Adams to Peterboro.	Geo. E. Currie ..	"	3,317.90	28	1,599.40
Chene, from Jefferson to Sherman	Talbot Paving Co	"	2,895.00	30	2,310.70
Chene, from Sherman to Gratiot.	Talbot Paving Co	"	2,728.50	30	2,956.10
*Seventh, from River to Porter..	Talbot Paving Co	"	1,700.30	30	1,323.80
Columbia, from Woodward to St Antoine	Jno A. Mercier..	"	2,143.00	26	1,566.50
Macomb, from Russell to Riopelle	Sheehan & Co...	"	475.00	28	158.10
St. Antoine, from Adams to High	Archd. Grant....	"	937.50	28	1,280.70
			24,568.83		21,890.60

4.651 miles—Average gross cost per square yard, \$1.12.

Average net cost per square yard, 0.82.

*On account of Detroit Citizens Railway, \$1,011.79.

Beaubien, from Fort to Gratiot.	Mich. Stone & Supply Co.	Brick on concr.	1,363.80	30	2,097.40
Larned, from Woodward to Third	Mich. Stone & Supply Co.	"	2,278.10	40 & 31	2,803.90
Riopelle, from Jefferson to Monroe	Geo. A. Burch..	"	1,574.60	23	2,733.80
Cass, from Jefferson to Fort	Sheehan & Co...	"	825.50	40 & 36	1,373.80
*Randolph, from Dock to Congress	Sheehan & Co...	"	1,266.10	40	1,681.60
			7,308.00		10,690.50

*On account of Detroit Citizens Railway, \$828.69.

1.384 miles—Average gross cost per square yard, \$1.66.

Average net cost per square yard, 1.37.

Jefferson, from Mt. Elliott to Boulevard	Chas. I. Williams	Asphalt.....	2,573.50	60	4,106.70
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.487 miles—Average gross cost, \$1.91.

Average net cost, 1.64.

Beaubien, from Atwater to Jefferson	Geo. E. Currie & Co.	Medina blocks and asphalt.	635.60	40	1,088.70
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FISCAL YEAR 1897-8.

Paving Square Yards, Final Measurement.	Contract Price.	Cost of Ad- ditional Paving.	Total Cost.	Paid on Account.	When Confirmed	When Completed and Accepted.
2,718 55	\$ 2,761 79	\$ 380 86	\$ 3,142 65	All paid	June 29, 1897	Aug. 10, 1897
13,010.75	14,189 49	1,203 92	15,393 41	All paid	May 13, 1897	July 13, 1897
3,440.84	3,386 30	51 87	3,438 17	All paid	June 8, 1897	Aug. 10, 1897
7,350 68	7,287 92	1,133 30	8,421 22	All paid	June 8, 1897	July 27, 1897
11,115 30	10,491 58	926 23	11,417 81	All paid	July 20, 1897	Sept. 14, 1897
8,034.95	8,856 57	.....	8,812 01	All paid	Aug. 3, 1897	Sept. 30, 1897
7,560.92	8,550 34	266 05	8,816 39	All paid	Aug. 3, 1897	Sept. 30, 1897
5,842 58	6,513 57	.....	*6,427 35	All paid	Aug. 10, 1897	Sept. 21, 1897
6,198.46	7,029 65	.....	7,016 96	All paid	May 10, 1898	June 28, 1898
1,479.23	1,655 56	.....	1,557 74	All paid	May 24, 1898	June 28, 1898
2,932.22	3,493 36	146 39	3,639 75	All paid	May 24, 1898	June 28, 1898
69,684.48	\$ 74,216 13	\$4,108 62	\$ 78,083 46			

5,056.10	7,771 05	637 05	8,408 10	All paid	May 4, 1897	July 13, 1897
9,129.11	13,976 45	944 01	14,920 46	All paid	May 13, 1897	July 20, 1897
4,451.78	6,885 07	899 83	7,784 90	All paid	May 13, 1897	July 27, 1897
3,656.76	5,942 09	248 00	6,190 09	All paid	May 25, 1897	Aug. 17, 1897
5,746.66	9,402 25	.....	*9,238 43	All paid	June 22, 1897	Sept. 7, 1897
28,040.41	\$ 43,976 91	\$ 2,728 89	\$ 46,541 98			

12,384.34	\$ 23,706 68	\$ 3 74	\$ 23,710 42	All paid	July 20, 1897	Oct. 26, 1897
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3,551.85	4,501 20	211 21	4,712 41	All paid	May 10, 1898	June 21, 1898
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ALLEYS PAVED DURING THE

BOUNDARIES.	Contractor.	Style of Pavement.	Length, Feet.	Width, feet.	Excavation, Cubic Yards.
E. and W. alley north of Mich- igan ave. between Fourteenth and Wabash.....	Laidlaw & Co....	Cobble on sand.	331.25	20	489.00
Congress, Fort, St. Antoine, Hastings.....	Henry Meridan..	"	573.95	20	661.00
E. and W. alley N. of Mich. w. of Harrison; also N. and S. alley north to *north line of lot 65...	Daniel Lyons....	"	138.09	*14 *15	144.00
			1,043.29		1,294.00

*N. and S. alley, 14 feet.

*E. and W. alley, 15 feet.

.197 miles—Average gross cost per square yard 65c.

N. and S. alley west of Bates, north of Cadillac square.....	Geo. A. Burch..	Brick on concr.	101.74	Vari- ous.	79.00
John R. Randolph, Cross. Adams	Geo. W. Winter- halter..	"	167.50		212.00
			269.24		291.00

.0509 miles.

FISCAL YEAR 1897-8.

Paving, Square Yards.	Estimated Inspection and Advertising.	Cost of Intersections.	Cost of Assessment District.	Total Cost.	When Contract Confirmed.	When Pavement Accepted.
736.11	\$ 62 00	.....	\$ 416 69	\$ 478 69	June 29, 1897	July 27, 1897
1,216.64	71 00	.....	671 73	742 73	Sept. 14, 1897	Oct. 12, 1897
226.96	47 00	.....	149 48	196 48	Oct. 12, 1897	Oct. 26, 1897
2,179.71	\$ 180 00	.....	\$1,237 90	\$1,417 90		

142.00	46 00	.....	209 10	255 10	May 18, 1897	July 13, 1897
368.91	54 00	126 02	540 76	720 78	May 3, 1898	June 14, 1898
510.91	\$ 100 00	\$ 126 02	\$ 749 86	\$ 975 88		

ALLEYS REPAVED UNDER THE

BOUNDARIES.	Contractor.	Style of Pavement.	Length, Feet.	Width, Feet.	Excavation, Cubic Yards.
Fort. Lafayette, Shelby, Griswold.....	Western Bermudez Asp. Co.	Asphalt	346.78	20	362.00
Washington, Rowland, Michigan, State.....	Western Bermudez Asp. Co.	"	235.00	20	140.00
			581.78		502.00

.110 miles—Average gross cost per square yard, \$1.57.

Average net cost per square yard, 1.25.

Michigan, State, Griswold, Woodward.....	Liphardt & Winterhalter.	Brick on concr.	340.00	20x30	320.00
Cadillac square, Bates, Farmer, Monroe.....	Liphardt & Winterhalter.	"	476.27	20x30	406.00
Larned, Congress, Griswold, Woodward.....	Liphardt & Winterhalter.	"	281.25	20	193.00
Woodward, Campus Martius, Monroe, Gratiot, Farmer.....	James Hanley...	"	647.05	20x30	600.00
Shelby, Griswold, Congress, Fort Woodward, Bates, Jefferson, Larned.....	Julius Porath...	"	367.40	20	257.00
Woodward, Bates, Congress, Cadillac square.....	Julius Porath...	"	199.00	20	132.00
Woodward, Bates, Larned, Congress.....	Julius Porath....	"	445.00	20	279.00
	Jno. A. Mercier.	"	280.00	20	166.00
			3,035.97		2,353.00

.575 miles—Average gross cost per square yard, \$1.74.178.

Average net cost per square yard, 1.54.

ORDINANCE ADOPTED 1897.

Paving, Yards. Square Yards.	Estimated Inspection and Advertising	Cost of Intersections	Cost of Assessment District.	Total Cost.	When Contract Confirmed.	When Pavement Accepted.
683.89	\$ 74 00	\$ 55 08	\$ 969 42	\$1,098 50	Sept. 14, 1897	July 7, 1898
420.59	61 00	50 63	522 54	634 17	Sept. 14, 1897	July 7, 1898
1,104.57	\$ 135 00	\$ 105 71	\$1,491 96	\$1,732 67		

788.12	80 00	57 77	1,229 46	1,367 23	Sept. 14, 1897	Oct. 26, 1897
1,012.98	92 00	63 23	1,587 32	1,742 55	Sept. 14, 1897	Oct. 26, 1897
482.08	65 00	56 56	739 15	860 71	Sept. 14, 1897	Nov. 4, 1897
1,499.00	114 00	109 00	2,331 66	2,554 66	Sept. 14, 1897	Nov. 30, 1897
791.58	64 00	61 24	1,256 31	1,381 55	May 3, 1898	June 7, 1898
321.35	56 00	88 17	468 40	612 57	May 3, 1898	June 14, 1898
835 71	64 00	88 00	1,315 76	1,467 76	May 3, 1898	June 21, 1898
502 83	56 00	85 44	729 20	870 64	May 3, 1898	June 21, 1898
6,233.65	\$ 591 00	\$ 609 41	\$9,657 26	\$10,857 67		

PAVEMENT LAID, FISCAL YEAR 1897-8.

Cedar on concrete (new pavement)	13.206 miles.
Brick " " (new pavement)	.364 "
Cobble (alleys)	.197 "
Brick (alleys)	.509 "
Cedar on concrete (repaving)	4.651 "
Brick on concrete (repaving)	1.384 "
Asphalt " (repaving)	.487 "
Medina " (repaving)	.124 "

Total.....20.922 miles.

Average cost of paving per square yard compared with fiscal year 1896-7.

				1896-97		1897-98	
				GROSS	NET	GROSS	NET
Cedar on concrete	(new)	.....		1.52	.99	1.34	.81
" " "	(repaving)	.....		1.19	1.00	1.12	.81
Brick " "	(new)	.....		2.18	1.56	2.04	1.45
" " "	(repaving)	.....		1.82	1.46	1.66	1.36



CASS AVENUE NORTH FROM LEDYARD STREET—PAVED WITH ASPHALT IN 1889.

BOARD OF PUBLIC WORKS.

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Total Paving in City to January 1st, 1898.

	Lineal Feet.	Miles.	City Square Yards.	Citizen's R'y Square Yards.	Detroit R'y Square Yards.	Fort Wayne & Belle Isle R'y Square Yards.	Total Square Yards.
Cedar on concrete.....	330,970.98	62.639	1,017,667.34	142,681.16	114,625.04	25,835.88	1,300,809.42
Cedar on plank.....	297,230.32	56.2917	872,828.44	.....	.....	.....	872,828.44
Cedar on sand and boards.....	16,3590.43	3.0984	50,664.16	.....	.....	.....	50,664.16
Cedar on sand.....	300,594.44	56.9308	885,578.31	2,022.33	.....	14,350.05	901,950.69
Cedar on sand, stone gutters.....	66,546.77	12.6036	226,268.22	.....	.....	.....	226,268.22
Cedar on sand and boards, stone gutters.....	50,518.22	9.5678	153,093.57	.....	.....	.....	153,093.57
Brick on concrete.....	102,354.80	19.3910	373,414.92	97,710.70	12,880.73	17,743.90	501,750.25
*Asphalt on concrete.....	106,353.07	20.1426	445,133.25	24,142.00	413.40	1,236.35	470,925.00
Granite on concrete.....	9,147.00	1.7324	22,877.92	15,245.00	.....	.....	38,122.92
Cobble on concrete.....	9,929.90	1.3125	24,524.73	.....	.....	.....	24,524.73
Medina on concrete.....	5,794.45	1.0974	19,850.82	1,549.95	140.00	.....	21,540.77
Stone on sand.....	15,535.46	2.9423	53,180.30	5,912.15	.....	3,689.66	62,782.11
Silica barytic.....	1,058.10	0.2004	3,147.19	.....	.....	.....	3,147.19
†Macadam.....	463.74	0.0879	1,339.69	.....	.....	.....	1,339.69
Total..	1,309,876.75	248.0827	4,149,568.86	289,263.29	128,059.17	62,855.84	4,622,747.16

*The asphalt pavements in Detroit are all sheet pavements, the total of 445,133 square yards (excluding paving between street railway tracks) being divided as follows: Trinidad, 341,595; Beroudez (Venezuelan), 91,154; Alcatraz (California), 12,384. The street mileage is: Trinidad, 15.8655 miles; Beroudez, 3.8500; Alcatraz, 0.4870.

†There is in addition 10.69 miles of Macadam pavement of the Boulevard, not included in the table of street mileage.

SEWERS.

During the fiscal year there were added 4.27 miles of public sewers, making a total of 159.92 miles of public sewers in this city. The old public sewer in Twenty-fourth street, from south of River street to Porter street, was rebuilt, covering a distance of 2,530 feet. The lateral or alley sewer system was increased by the construction of 12.01 miles of new work, about the same amount as was built the preceding fiscal year. Nothing but vitrified glazed pipe was used, the old fashioned brick laterals having passed into history. The Board desires to call attention to these features of the public sewer fund: For general sewer work, such as building receiving basins, labor and material, repairing and cleaning old ones, sewer pipe and receiving basins the expenditures were \$42,393.77, while the general sewer work as a whole cost \$54,952.62. For sewer arms, refunds and extras, the expenditures aggregate \$10,662.38. Cost of cement and inspection was \$23,437.77, and the amount paid on contract account for public sewer construction was \$83,564.18. There was also paid from the public sewer fund the sum of \$15,192.68 for Controller's notes and interest borrowed against the appropriation of 1896-1897 to carry on the work of that fiscal year.

GENERAL SEWER WORK.

Labor, building receiving basins.....	\$ 22,805 74
Labor, repairing and cleaning basins.....	4,712 18
Labor, repairing and building manholes.....	395 02
Labor, repairing and cleaning sewers.....	1,589 68
Sewer connections, repairs and cleaning.....	2,999 13
Sewer pipe	6,482 21
Sewer grates, manhole covers, etc.....	4,720 15
Receiving basins, stone.....	8,333 64
Use of team, City Engineer.....	635 00



WOODWARD AVENUE AND CAMPUS MARTIUS—PAVED WITH ASPHALT IN 1893.

BOARD OF PUBLIC WORKS.

25

Tools and repairs to tools.....	626 20
Repairing asphalt pavements over sewers.....	21 04
Printing and advertising	475 36
Stationery, maps, etc.....	34 19
Hardware, etc.....	139 44
Oil, wicks, etc.....	19 51
Lumber	44 06
Labor, setting stakes	227 50
Brick	101 00
Car fare, etc.	282 65
Rent of telephones	101 14
Building part lateral sewer No. 950.....	147 78
Controller's notes and interest.....	15,192 68

SEWER ARMS, REFUNDS AND EXTRAS.

Assessment sewer arms	9,553 66
Sewer assessments refunded.....	71 79
Extras on sewer contracts.....	36 93

CEMENT, INSPECTION, ETC.

Cement for public and lateral sewers.....	11,423 27
Inspection of cement and labor handling.....	1,248 00
Inspection of public and lateral sewer construction	10,766 50

PUBLIC SEWER CONTRACTS.

Gulloz avenue, first and final estimate.....	3,695 50
Twenty-fourth street, sixth and final estimate	1,060 92
Crane avenue, Sec. 3, first to final estimates.....	16,346 88
Cadillac avenue, Sec. 3, first to final estimate	5,453 28
McClellan avenue, Sec. 3, first to final estimate	10,296 35
Van Dyke avenue, Sec. 3, first to final estimate	14,745 66
Van Dyke avenue, Sec. 4, first to seventh estimate	11,856 20
Van Dyke avenue, Sec. 5, first to fourth estimate	7,316 01
Lothrop avenue, first to final estimate	7,063 75
Sixteenth street (extension), first to fourth estimate	5,709 62
Bates street, third and final estimate.....	30 00

Total\$186,809 63

LATERAL SEWERS CONSTRUCTED

NO.	ALLEYS—BETWEEN WHAT STREETS LOCATED.	CONTRACTOR.
906	West of Seventh, between Butternut and Elm.....	Wm. H. Whittaker.....
907	Campbell, Junction, Rogers and Christiancy.....	Thos. G. Whittaker.....
909	Mitchell, McDougall, Palmer and Hendrie.....	August Koss.....
910	Helen ave., Frontenac Boulevard, Longyear and Lambert.....	Ferdinand Porath.....
911	Bellevue, Concord, Frederick and Kirby.....	Ferdinand Porath.....
912	Belvidere, McClellan, Houghton and Kercheval..	August Koss.....
913	Holcomb and McClellan aves., south line of Mun- ger's subdivision and Houghton street.....	Thos. G. Whittaker.....
914	Welch, Hammond, Otis and Julia.....	John A. Mercier & Co.....
915	West of Woodward, between Pallister and Dela- ware.....	Julius Porath.....
916	Between Fifth street and Grand River avenue, north of Pine street.....	Ferdinand Porath.....
917	Ellery, Mt. Elliott, Palmer and Boulevard.....	August Koss.....
918	Livernois and Welch avenues, Otis and proposed Julia street.....	Thos. G. Whittaker.....
920	Tillman, Williams, G.T. R. R. and Hancock.....	Ferdinand Porath.....
922	Detroit Light Guard Armory Sewer.....	Julius Porath.....
923	Twenty-eighth, Lovett, Horatio and Herbert.....	Thos. G. Whittaker.....
924	Sixth, Fifth, Jones and Beech.....	August Koss.....
925	Collins, Moron, Ferry and Palmer.....	Thos. G. Whittaker.....
926	Ellery st., Heck Place, Garfield and Forest aves..	Thos. G. Whittaker.....
927	Moran, Ellery, Canfield and Garfield.....	John A. Mercier & Co.....
928	Beaubien, St. Antoine, Milwaukee and Boulevard	Thos. G. Whittaker.....
929	Holcomb, Belvidere, Houghton and Kercheval...	August Koss.....
930	Seyburn, Van Dyke, Durand and Walnut.....	John A. Mercier & Co.....
931	Hibbard, Holcomb, Jefferson and Sears.....	John A. Mercier & Co.....

JULY 1ST, 1897—JULY 1ST, 1898.

Length. Lineal Feet.	Contract Price.	Cement.	Inspection.	Manhole Covers.	Costs.	Total Cost.
189	\$ 194 00	\$ 2 88	\$10 50	\$ 4 65	\$ 1 50	\$ 213 53
835	512 00	7 68	17 50	18 60	11 40	567 18
541	595 00	7 68	31 50	9 30	7 20	650 68
869	1,045 00	18 72	57 75	23 25	9 30	1,154 02
564	531 00	9 60	28 00	13 95	6 90	589 45
1,120	1,075 00	15 35	56 00	18 60	16 50	1,181 45
1,716	1,947 00	24 48	85 75	32 55	23 40	2,113 18
815	696 00	5 76	24 50	9 30	12 30	747 86
1,805	3,482 00	23 04	119 00	18 60	16 20	3,658 84
147	218 00	3 84	21 00	4 65	2 70	250 19
785	978 00	4 32	43 75	4 65	14 10	1,044 82
816	680 00	6 24	21 00	9 30	12 00	728 54
1,201	1,128 00	11 04	56 00	13 95	20 40	1,229 39
200	598 00	9 90	17 50	.....	.....	625 40
1,164	1,340 00	11 52	56 00	18 60	9 00	1,435 12
169	190 00	2 88	14 00	4 65	2 10	213 63
964	1,293 00	13 44	52 50	18 60	14 70	1,392 24
508	625 00	7 20	26 25	9 30	5 40	673 15
441	464 00	5 28	21 00	9 30	4 80	504 38
85	121 50	24	7 00	.....	1 20	129 94
1,010	1,310 00	9 60	45 50	13 95	16 50	1,395 55
922	1,715 00	15 84	56 00	23 25	9 60	1,819 69
1,071	1,185 00	17 60	50 75	18 60	13 80	1,285 75

LATERAL SEWERS CONSTRUCTED

No.	ALERTS--BETWEEN WHAT STREETS LOCATED.	CONTRACTOR.
942	Pennsylvania, Cadillac, Kercheval and Charle- vins extended	Thos. G. Whittaker.....
943	Brush, Beaubien, Hamlin and Smith.....	Ferdinand Porath.....
944	Third and second avenues extended Gladstone and Hazelwood	Ferdinand Porath.....
945	McKinstry, Clark, Brandon and Herbert.....	Ferdinand Porath.....
946	D. L. & N. K. K., Wesson, Rollin and Norton....	Julius Porath
947	Van Dyke avenue, east line Van Dyke Farm, Syl- vester and Stevens street	James Grant
948	McClellan, Pennsylvania, Mack and Emmons....	James Grant.....
949	Belvidere, McClellan, Kercheval and Lorman avenue (extended)	James Grant.....
950	Ellery, Mt. Elliott, Canfield and Garfield.....	James Grant.....
951	Hibbard, Holcomb, Sears and Rayne.....	Julius Porath.....
952	Holcomb, Belvidere, Kercheval and Louis.....	James Grant.....
953	Hibbard, Holcomb, Rayne and Kercheval.....	Thos. G. Whittaker.....
954	Seyburn, Van Dyke, Canfield and Forest.....	August Koss.....
955	Haldwin, Seyburn, Canfield and Forest.....	Ferdinand Porath.....
956	Twenty-eighth, Lovett, Buchanan and Kinsman..	August Koss.....
957	Collins, Moran, Farnsworth and Frederick	Julius Porath.....
958	Haldwin, Seyburn, Canfield and south line Har- mon's subdivision.....	Julius Porath.....
959	Hibbard, Holcomb, Kercheval and Brinket.....	Thos. G. Whittaker.....
960	Cass, Clifford, Adams and Elizabeth (arm).....	Julius Porath.....
961	Cadillac, Hurlbut, Jefferson and Kercheval.....	John A. Mercier & Co.....
962	West of McKinstry, between Toledo and Brandon	Ferdinand Porath.....
963	Moran, Ellery, Kirby and Ferry.....	Thos. G. Whittaker.....
964	West of McKinstry, between Plumer and Annexa- tion.....	Ferdinand Porath.....
965	McDougall, Elmwood, Heidelberg and Preston..	Thos. G. Whittaker.....
966	Boulevard, Field, Sylvester and Canfield.....	August Koss.....
967	Van Dyke, Parker, Worcester Place and Goethe..	Thos. G. Whittaker.....
968	Seventh, Hobart, Stanley avenues and Railroads.	Julius Porath.....
969	Van Dyke, Parker, Mack and Sylvester.....	John A. Mercier & Co.....
970	West of Mt. Elliott, between Ferry and Palmer..	Julius Porath.....

BOARD OF PUBLIC WORKS.

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JULY 1st, 1897--JULY 1st, 1898--CONTINUED.

Length, Lineal Feet.	Contract Price.	Cement.	Inspection.	Manhole Covers.	Costs.	Total Cost.
1,986	\$2,511 00	\$15 36	\$98 00	\$13 95	\$22 50	\$2,660 81
333	353 00	3 36	22 75	4 65	6 30	390 06
900	1,206 00	7 68	56 00	9 30	13 20	1,292 18
402	458 00	2 88	24 50	4 65	7 50	497 53
580	580 00	8 64	28 00	13 95	5 40	635 99
857	1,200 00	12 48	56 00	18 60	10 80	1,297 88
952	1,550 00	12 48	43 75	18 60	12 90	1,637 73
901	1,700 00	10 08	73 50	9 30	15 30	1,808 18
1,447	1,750 00	15 84	45 50	23 25	14 10	1,848 69
590	590 00	3 85	24 50	4 65	11 10	634 10
1,825	2,750 00	21 60	84 00	23 25	28 20	2,907 05
991	1,150 00	12 96	47 25	13 95	9 90	1,234 06
992	1,170 00	12 48	54 25	13 95	15 90	1,266 58
1,426	1,457 00	22 56	71 75	32 55	16 50	1,600 36
250	248 00	3 36	17 50	4 65	2 70	276 21
547	549 00	8 16	31 50	9 30	9 60	607 56
527	715 00	15 84	38 50	18 60	5 10	793 04
340	375 00	4 32	19 25	4 65	6 00	409 22
70	147 78					147 78
1 377	1,275 00	14 40	45 50	23 25	14 70	1,372 85
753	720 00	7 68	31 50	9 30	7 50	775 98
830	1,088 00	14 88	43 75	18 60	8 70	1,173 93
756	697 00	7 20	24 50	9 30	14 70	752 70
71	100 00	2 40	15 75	4 65	1 20	124 00
1,247	1,675 00	12 96	68 25	13 95	10 80	1,780 96
730	960 00	12 00	35 00	13 95	11 40	1,032 35
648	679 00	6 24	36 75	9 30	11 70	742 99
1,318	1,090 00	16 80	56 00	23 25	18 60	1,204 65
896	848 00	10 45	57 75	9 30	8 10	933 60

LATERAL SEWERS CONSTRUCTED

NO.	ALLEYS—BETWEEN WHAT STREETS LOCATED.	CONTRACTOR.
962	Boulevard, Field, Mack and Sylvester.....	James Grant.....
963	Beals, Van Dyke, Goethe (extended) and Mack ...	Thos. G. Whittaker.....
964	Twenty-eighth, Lovett, Rich and Horatio.....	Julius Porath.....
965	Belvidere, McClellan, Lorman (extended) and Lewis.....	James Grant.....
966	Lovett, Scotten, Warren and McGraw.....	Thos. G. Whittaker.....
967	McClellan, Bowen, Gregorie and Kercheval.....	James Grant.....
968	McClellan, Pennsylvania, Vincennes and Navarre	James Grant.....
969	McClellan, Pennsylvania, Kercheval and Vin- cennes.....	James Grant.....
970	In Scotten avenue, between Ida ave. and Page st	Julius Porath.....
971	Ferdinand, Lansing, Dix and Toledo.....	John A. Mercier & Co.....
972	In right of way between Hastings and Rivard, Kirby and Ferry.....	John Jaynes.....
973	East of Moran st., between Frederick and Kirby.	John Jaynes.....
974	Burns, Fischer, St. Paul and Kercheval.....	Julius Porath.....
975	Sewer arm in Kercheval avenue, between Burns and Crane.....	James Grant.....
976	In Ludden street, between Elmwood and Ellery..	Geo. W. Winterhalter.....
977	East of Bellevue and south of Preston.....	Wm. H. Whittaker.....
978	Woodward avenue, John R. street, Chicago and Boston Boulevards.....	August Koss.....
979	Grand River, Sullivan and Stanley avenues	Wm. Porath.....
981	In Maxwell avenue, for block Maxwell, Seminole, Jefferson and Tontl.....	James Grant.....
982	East of Lansing and north of Dix.....	John Jaynes.....
983	Woodward, Brush, Boston Boulevard and Belmont	Ferdinand Porath.....
984	Moran st., Thompson court, Forest and Hancock.	Thos. G. Whittaker.....
985	In Belvidere and Jefferson avenues, from the south line Munger's subdivision to McClellan ave..	Julius Porath.....
986	Holcomb and Belvidere, north of Jefferson ave....	Julius Porath.....
987	Baldwin, Van Dyke, Kirby and Whipple	Thos. G. Whittaker.....
988	Mt. Elliott, Beaufait, Theodore and Farnsworth.	Thos. G. Whittaker.....
989	McClellan, Pennsylvania, Hamtramck and Dor- chester.....	Julius Porath.....
990	Hurlbut, city line, Jefferson and Kercheval.....	H. F. Liphardt.....
992	Rivard and Russell, south of Ferry.....	John Jaynes.....
994	East of St. Aubin, between Alfred and Brewster..	John Jaynes.....
	Total.....	

BOARD OF PUBLIC WORKS.

31

JULY 1st, 1897—JULY 1st, 1898.—CONTINUED.

Length, Lineal Feet.	Contract Price.	Cement.	Inspection.	Manhole Covers.	Costs.	Total Cost.
554	\$ 541 00	\$ 4 95	\$40 25	\$ 4 65	\$ 6 00	\$ 596 85
883	905 00	13 75	52 50	13 95	14 70	999 90
731	479 00	3 84	40 25	4 65	7 50	535 24
762	640 00	7 37	35 00	9 30	12 30	703 97
721	680 00	11 55	40 25	13 95	10 20	755 95
683	570 00	15 40	45 50	18 60	7 80	657 30
660	500 00	7 70	36 75	9 30	10 20	563 95
491	580 00	9 35	36 75	9 30	4 80	640 20
99	111 00	3 30	15 75	4 65	1 20	135 90
1,550	1,845 00	26 40	73 50	27 90	17 10	1,989 90
577	492 00	9 63	50 75	9 30	.....	561 68
654	430 00	7 15	31 50	9 30	9 90	487 85
762	396 00	1 65	35 00	.....	5 70	438 35
545	600 00	6 60	45 50	4 65	.....	656 75
523	400 00	8 80	40 25	9 30	2 70	461 05
173	157 00	4 00	10 50	4 65	.....	176 15
1,280	1,810 00	25 86	96 25	18 60	5 70	1,956 40
197	138 00	4 40	17 50	4 65	3 60	168 15
1,046	588 00	8 80	47 25	9 30	6 00	659 35
203	151 00	3 30	17 50	4 65	2 70	179 15
1,903	2,142 00	22 00	110 25	18 60	15 90	2,308 75
263	205 00	5 50	19 25	4 65	5 10	239 50
665	399 00	6 60	29 75	9 30	4 50	449 15
582	338 00	12 10	33 25	13 95	7 80	405 10
775	660 00	15 95	52 50	18 60	9 60	756 65
1,002	750 00	16 50	50 75	18 60	14 10	849 95
635	367 00	7 70	29 75	9 30	10 20	423 95
1,122	497 00	7 70	47 25	9 30	6 90	568 15
647	424 00	12 65	40 25	13 95	5 70	496 55
245	125 00	3 30	14 00	4 65	3 00	149 95
63,412 12 01 miles.	\$69,434 28	\$826 86	\$3,405 50	\$985 80	\$762 30	\$75,414 74



McDOUGALL AVENUE NEAR FORT STREET EAST—RESURFACED WITH CEDAR BLOCK IN 1898.

PHIL
OF
104

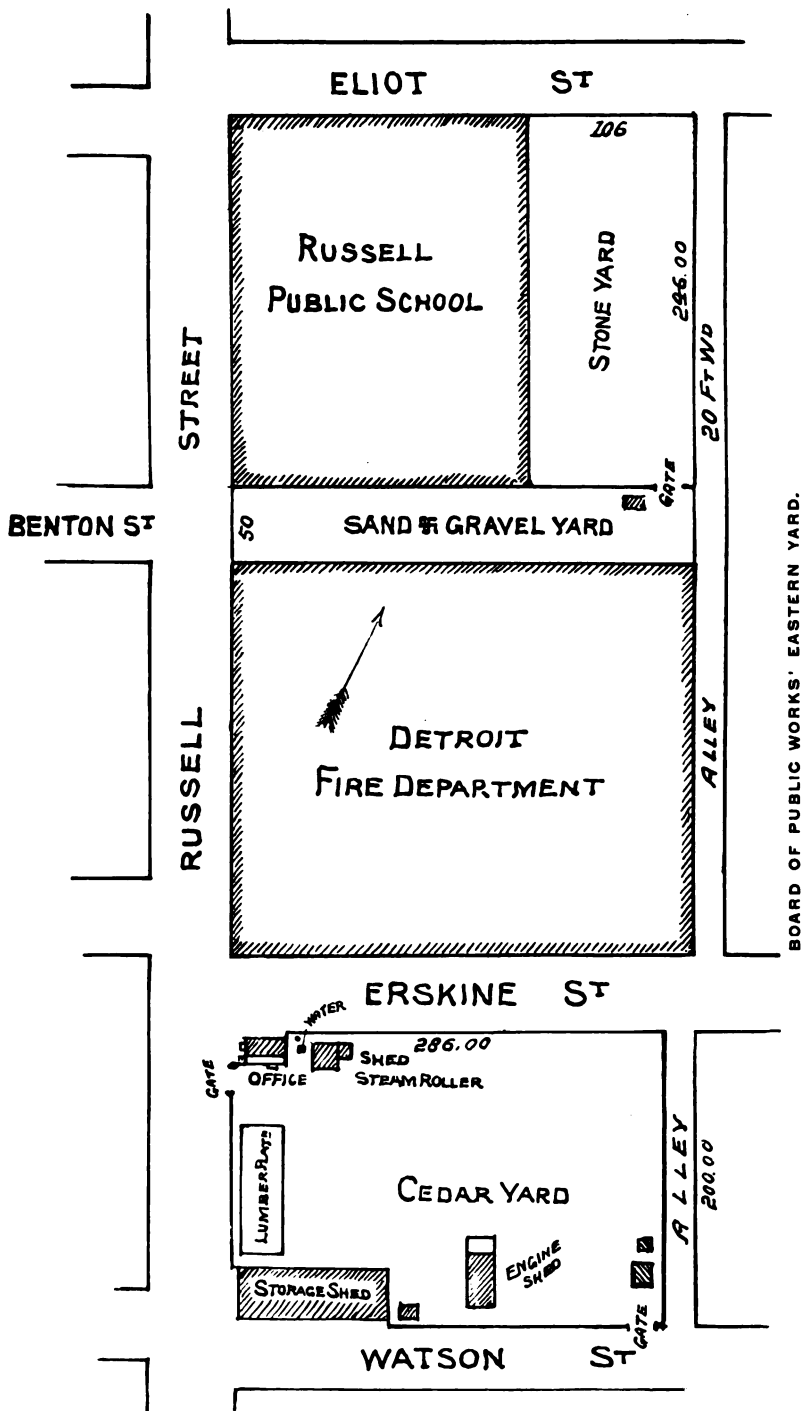
GENERAL ROAD FUND.

The expenditures from this fund cover hundreds of items, of which only a few are given. All defects in streets, alleys and public places are cared for from the general road fund, as well as many items of expenditure which occur daily. There are four large items: Labor, repairing pavements on city and other accounts, \$39,333.30; paving street intersections, \$32,517.14; cedar, \$32,230.60; lumber, \$27,535.11. Considerable of the money expended for repairing pavements comes back to the Board in the shape of charges to corporations and individuals for repairs to places disturbed by them for connections to gas and water and the laying of pipe. The two items of \$5,999.79 for repairing and building new wood sidewalks, and \$3,382.46 for expenses of running the two steam road rollers are largely off-set by reimbursements from property owners for the repairing and building of walks and from paving contractors for the use of rollers in the paving and repaving of streets. These points explain why it was possible for the Board during the fiscal year to expend from the general road fund the sum of \$241,903.36, when the amount allowed by the Board of Estimates was only \$186,790.

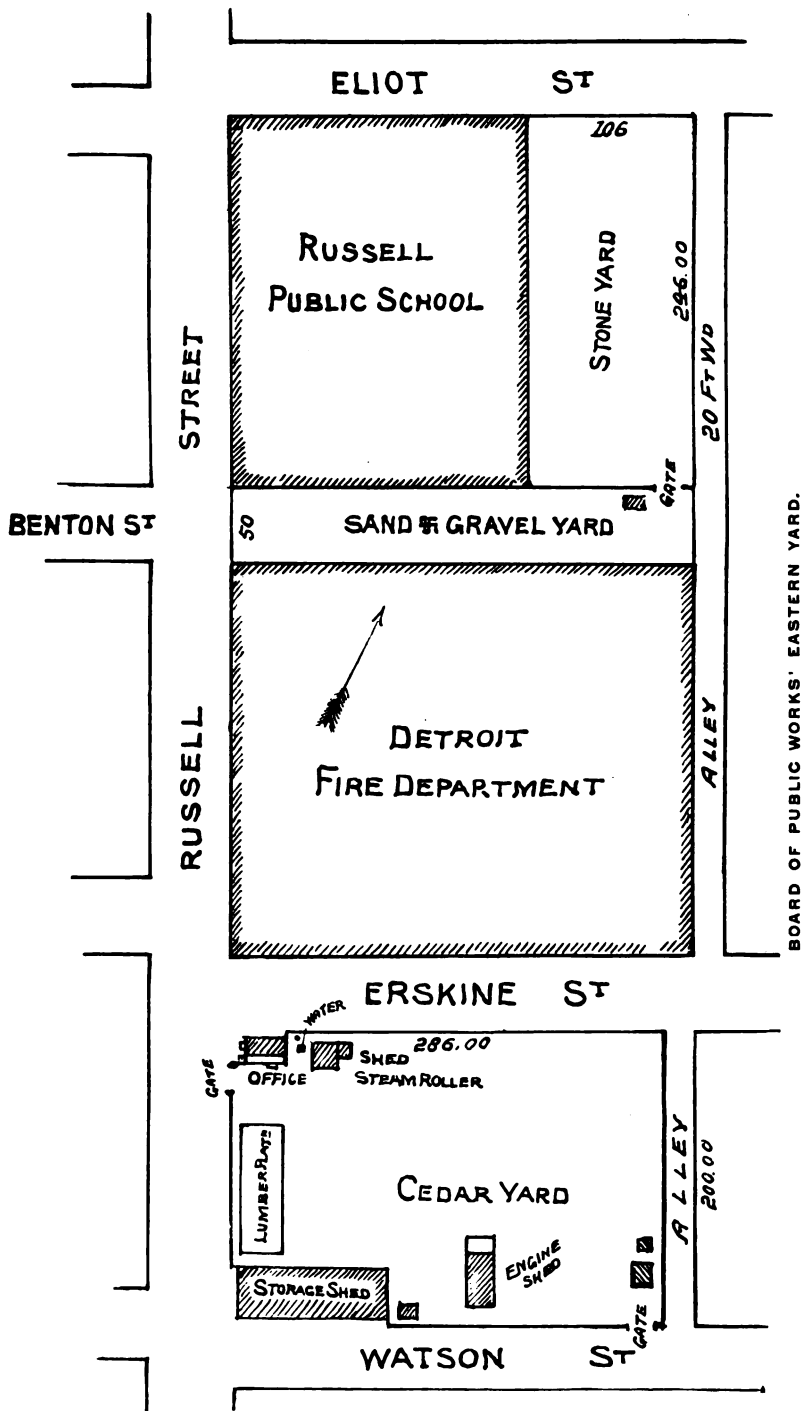
Following are the details of expenditures:

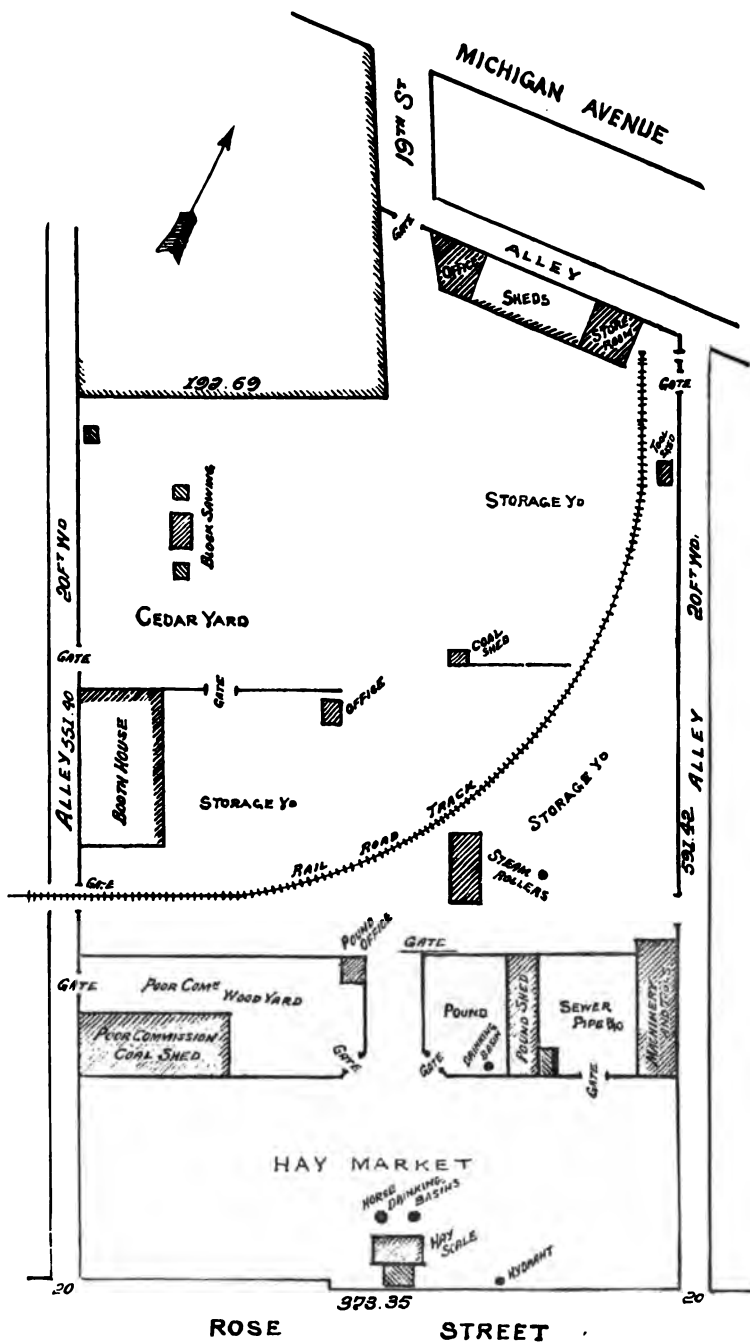
Labor, repairing pavements on city and other accounts	\$ 39,333 30
Labor, building new wood crosswalks.....	1,075 20
Labor, repairing old wood crosswalks.....	4,324 33
Labor, repairing and building stone crosswalks	3,904 69
Labor, building new wood intersections.....	292 14
Stone intersections	5,481 48
Stone flagging	7 80
Stone sidewalks	1,065 68
Labor, repairing old wood intersection walks	3,494 87
Labor, building new wood sidewalks.....	1,112 16
Labor, repairing old sidewalks.....	4,887 63
Asphalt pavement repairs	18,429 49
Paving street intersections	32,517 14
Paving and other assessments refunded.....	242 23
Labor, etc., repairing bridges.....	599 72
Cedar	32,230 60
Labor, hauling cedar	31 63
Cutting cedar into paving blocks.....	1,692 20
Pay roll, labor at Eastern cedar yard.....	2,190 79
Pay roll, labor at Western cedar yard.....	1,724 26

Coal for steam road rollers.....	192 23
Repairs to steam road rollers.....	1,407 16
Pay roll, engineers, etc., steam road rollers.....	1,783 07
Labor, building and repairing culverts.....	296 02
Pay roll, inspectors of Water Board, Gas Co., etc., work.....	3,711 30
Crushing stone	268 88
Labor, dressing crosswalks and curbstones, etc.....	741 53
Labor, etc., repairing docks.....	15 38
Pay roll, labor at Eastern yard.....	1,876 54
Pay roll, labor at Western yard.....	1,754 21
Extras on paving contracts	267 87
Pay roll, inspectors of paving.....	6,380 26
Repairing fountains	377 52
Horse drinking fountains and putting in same	334 28
Pay roll, superintendents, Eastern, Western and Central districts	2,119 50
Lumber	27,535 11
Hardware nails, etc.....	843 84
Paints, oils, etc.....	146 32
Hauling old material to storage yards and care of same	1,119 52
Pay roll, hauling and piling lumber.....	73 45
Rent of storage yards.....	474 00
Plumbing in yards.....	23 09
Stationery, printing and advertising.....	2,637 65
Maps, etc.	52 90
Paving cement	1,345 92
Pay roll, labor setting stakes City Engineer's department	627 38
Stakes for Engineer.....	203 20
Teams for Engineer	680 00
Pay roll, underground construction department	1,480 50
Sand and gravel	6,236 34
Pay roll, sidewalk inspectors	9,390 00
Street signs and labor putting up same.....	2,272 21
Sprinkling streets	657 45
Tile for street drains	193 76
Tools and repairs to tools.....	1,188 08
Labor, care of Washington avenue parkway.....	199 50
Pay roll, inspectors, water connections, house moving, etc.....	6,498 12
Postage, car fare, telegrams, etc.....	242 09
Paving brick, etc.	794 19
Labor, repairing sheds, etc., at yards, etc.....	45 68
Insurance on sheds, etc., at yards	245 00
Labor, cleaning Eastern and Western Hay Markets	76 15
Removing trees	18 80
Labor, care of Bagley fountain.....	33 78
Rent of telephones	122 51
Stone and circle curb.....	243 98
Labor, building and removing fences, etc.....	40 76
Total	\$241,903 36



Coal for steam road rollers.....	192 23
Repairs to steam road rollers.....	1,407 16
Pay roll, engineers, etc., steam road rollers....	1,783 07
Labor, building and repairing culverts.....	296 02
Pay roll, inspectors of Water Board, Gas Co., etc., work.....	3,711 30
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Total	\$241,903 36





BOARD OF PUBLIC WORKS' WESTERN YARD.

STORAGE YARDS.

Sketches of the Board's Western and Eastern Yards for the handling and storage of material in connection with public work are given on other pages. The Western Yard is situated south of Michigan avenue, between 18th and 20th streets, running south to Rose street. The property was purchased by the city four years ago. A side track from the Michigan Central Railroad runs into the yard, and everything for the convenience of handling and storing material is found there. It is an ideal yard in every respect and the grounds are large enough for all ordinary purposes for twenty years to come. The Eastern Yard is located on Russell street, running east to the alley, between Watson and Erskine streets. Half a block north, between Benton and Eliot streets, the Board has a strip of land 50 x 286 feet which is used for sand and gravel, and a piece 106 x 246 feet in the rear of the Russell school, which is used for a stone yard. The facilities of the Eastern yard are entirely inadequate, and the great eastern suburb of the city is growing so rapidly that something will have to be done by the Common Council and Board of Estimates to provide more room for the storage and handling of material. The Board asked for the old reservoir grounds for their use, but the proposition did not meet with favor by the aldermen. In order to take care of the sidewalk repair gangs in the extreme eastern section, there being no room at the Russell street yard, a yard is being used at the corner of Bellevue and Waterloo streets, for which a considerable rental is paid yearly. The Board hopes by the time the next report is issued to be able to boast of as complete and convenient a yard for the east side as that which the west side enjoys.

SIDEWALK INSPECTION.

To reduce the number of sidewalk damage suits as much as possible, and at the same time give the public good and safe walks for travel, has been the constant aim of the Board. The force consists of eight inspectors, and to keep their districts in good shape work enough devolves upon them to keep them very busy, especially during the seasons of the year when the walks are not covered with ice and snow. An innovation for further perfecting the system of inspection was brought about by the use of bicycles. The inspectors are thereby able to cover their districts more frequently than by walking. The police department works in conjunction with the Board by turning into the office every morning notices of defects discovered by patrolmen. The sidewalk repair gangs follow up after the expiration of time fixed for the work to be done by property owners and repair old walks and build new as the case may be. The money paid for such work is credited to the general road fund. The sidewalk inspectors also serve notices prior to the paving of streets and building of lateral sewers, which amounted to 33,221 notices.

The following table will show walks constructed or repaired during the year, the cost of which has to be carried to assessment to secure payment :

PLANK.

Lineal feet new walk constructed.....	5,225.08
Assessed value of same.....	\$1,306.32
Assessed value of repairs	\$1,853.20
Number of rolls constructing.....	68
Number of rolls repairing.....	466

NATURAL AND ARTIFICIAL STONE.

Square feet natural stone walk constructed	1,023
Assessed value of same.....	\$ 194.37
Square feet artificial stone walk constructed.	2,607.45
Assessed value of same	\$ 286.82
Assessed value repairs to natural stone walks.....	\$ 81.07
Number of rolls constructing.....	4
Number of rolls repairing.....	6

Assessment rolls for defraying cost of 4,179 $\frac{9}{10}$ square feet artificial stone walk laid by Park and Boulevard Commission on Grand Boulevard west was also made by Board of Public Works.

The number of notices of all kinds served by the sidewalk inspectors for the year, and the miles of new plank and stone sidewalk constructed on account of notices for such work served, were as follows :

Notices served for repairs.....	16,942
Notices served for new walks.....	4,430
Notices served for lateral sewers.....	2,390
Notices served for paving.....	2,234
Miscellaneous notices served.....	7,225
Total notices served.....	33,221

NEW PLANK AND STONE WALKS BUILT.

Total number of lineal feet of new plank walk built.....	234,441
Total number of lineal feet of new stone walk built.....	39,257
Total number of walks repaired.....	14,409
Total number of crosswalks repaired.....	2,328
Total number crosswalks built.....	278

A comparison for eight years shows :

	1890-1	1891-2	1892-3	1893-4	1894-5	1895-6	1896-7	1897-8
Miles of plank walk built	32	55	63	39	33 $\frac{344}{1000}$	30 $\frac{1}{100}$	54 $\frac{37}{100}$	44 $\frac{2}{3}$
Miles of stone walk built.....	3	7	9	8	6 $\frac{377}{1000}$	5 $\frac{38}{100}$	3 $\frac{83}{100}$	7 $\frac{43}{100}$
Amount received from repairing sidewalks.....								\$5,634 20
Amount received for building new sidewalks.								3,567 57
Total.....								\$9,201 77

BOARD OF PUBLIC WORKS GENERAL FUND.

The expenditures from this fund for the fiscal year were as follows :

Pay roll, Commissioners and office force.....	\$ 25,049 28
Pay roll, City Engineer, assistants and force	19 111 46
Stationery, printing and advertising.....	166 18
Pay roll, assistant engineer, City Hall.....	35 75
Postage, etc.....	34 80
Supplies for Gas Inspector.....	94 61
Total.....	\$ 44,492 08

PUBLIC BUILDING FUND.

The care, maintenance and repair of the City Hall, Municipal Court building and Health building is paid for out of this fund, as well as cleaning sidewalks around the City Hall. Repairs to offices and furniture continues to be the largest item, although the work is all done by a force of competent carpenters employed by the Board, and is a noticable saving over the old method of a few years ago when every piece of work required around the City Hall was done by outside help. Following is a statement of the expenditures for the past fiscal year :

CITY HALL.

Repairs to office and furniture.....	\$ 2,411 23
Pay roll, janitors third floor and basement.....	918 00
Cleaning basement and walks around City Hall	1,599 23
Electrical apparatus and repairs.....	453 85
Engine and boiler repairs	237 54
Painting and kalsomining	336 50
Plumbing	224 99
Repairs to elevators	315 81
Repairs to roof	579 50
Cleaning stone piers	52 78
New safe, City Engineer's office.	190 00
Pay roll, assistant fireman	84 17
Plans, etc., Mayor's office.....	50 00
Toilet service	62 50
Sand, cement, etc.....	24 65
	<hr/> \$ 7,590 80

MUNICIPAL COURT BUILDING.

Repairs to offices and furniture... ..	\$ 662 82
Plumbing	595 47
Repairs to engine and boilers.....	98 33
Repairs to elevators	192 80
Electrical supplies and repairs... ..	14 85
On account plans, etc., heating and ventilating apparatus	100 00
Advertising for bids, heating and ventilating apparatus	25 00
	<hr/> \$ 1,689 27

BOARD OF HEALTH BUILDING.

General repairs	\$ 45 63
	<hr/> \$ 45 53

MISCELLANEOUS EXPENDITURES.

Hardware, locks, etc.....	\$ 651 43
Lumber	421 30
Paint, glass, etc.....	254 74
Storm doors	29 25
Brooms and supplies for cleaning.	29 34
Lubricating oils	45 15
Cartage	13 00
Centroller's note and interest.....	504 55
	<hr/>
	\$ 1,949 33
Total	<hr/>
	\$ 11,275 06

MARKET FUNDS.

On July 1, 1897, there was a balance of \$5,380.61 in the Western Market fund. The expenditures during the fiscal year amounted to \$1,433.03, leaving a balance to the credit of the fund of \$3,947.58. The largest item was for painting, \$1,129.70. The amount allowed by the Board of Estimates for the Eastern Market was \$200, and the total receipts for this fund from all sources were \$225.24, of which \$164.29 was expended for repairs, plumbing and hardware, leaving a balance of \$60.95. Following is a detail for each market :

EASTERN MARKET FUND.

General Repairs	\$ 34 72
Plumbing	124 17
Hardware	5 40
	<hr/>
Total	\$ 164 29

WESTERN MARKET FUND.

Painting market building, etc.....	\$ 1,129 70
General repairs	193 16
Plumbing	91 61
Hardware, etc.....	18 56
	<hr/>
Total	\$ 1,433 03

BELLE ISLE BRIDGE.

The new south approach to the bridge, which was built by the Toledo Bridge Co., and completed Sept. 18, swelled the expense of the fund \$20,243.69. The amount of the general repairs, painting, care and maintenance of the bridge was \$7,893.87, making a total of \$28,137.56. Following shows the expenditures in detail :

NEW SOUTH APPROACH.

Iron superstructure, first to final estimate	\$ 12,758 00
Stone piers and abutments, first to final estimate	5,400 00
Stone work, etc., material and labor.....	513 88
Piles, driving new and removing old.....	723 50
Pay roll, engineers on construction.....	616 13
Ornamental railing	100 00
Sand and cement	82 18
Use of temporary timber approach.....	50 00
	<hr/>
	\$ 20,243 69

MISCELLANEOUS.

Coal	\$ 260 25
Hardware, etc.....	50 82
Lumber	102 52
General repairs, material and labor.....	524 58
Oil, waste, etc.....	26 96
Repairs to boilers	86 15
Tools, brooms, etc.....	29 60
Painting bridgt, first to final estimate.....	1,310 90
Pay roll, inspector of painting.....	45 00
Advertising for bids for painting.....	18 09
Pay roll, bridge employees	5,439 00
	<hr/>
	\$ 7,893 87
Total	<hr/>
	\$ 28,137 56

RESERVOIR FUND.

The following were the expenditures from this fund during the fiscal year :

Pay roll, teamsters, etc., hauling dirt from reservoir	\$ 4,282 13
Tools, etc.....	16 15
	<hr/>
Total	\$ 4,298 28



FORT STREET WEST NEAR CAMPAU STREET—RESURFACED WITH CEDAR BLOCK IN 1898.



INSPECTION OF GAS AND GAS METERS.

During the year a total of 5,296 meters were inspected and proved by the Gas and Meter Inspection Department of the Board, which is an increase of 1,486 over the total number inspected the previous year.

Of the 5,296 meters mentioned above, 2,780 were "new" and 2,439 "repaired" meters inspected for the Detroit Gas Co. and the Detroit City Gas Co., and 77 were inspected on complaint of consumers of gas.

Of the 2,439 repaired meters inspected, 63 were condemned on account of registering too fast (average error 3.98 per cent.), 22 for registering too slow (average error 5.27 per cent.), and 14 were condemned for other reasons—such as failing to pass gas, not registering, leaks, etc. The remainder were found to register correctly and were sealed.

Of the 2,780 new meters inspected, 8 were condemned on account of registering too fast (average error 4.22 per cent.), 3 for registering too slow (average error 4.67 per cent.), and 4 for other reasons. The remainder were found to register accurately, and were sealed.

Of the 77 meters inspected on complaint of consumers of gas, 22 were found to register too fast (average error 4.70 per cent.), 8 too slow (average error 4.31 per cent.), and the remainder (47) were found to register within the ordinance limit of 2 per cent. either way, and sealed.

The average illuminating power of the gas during the year was equal to 21.22 standard sperm candles, as against 20.46 candles for the previous year, an increase of .76 of a candle, or 3.22 candles above requirement.

At no time during the year did the candle power of the gas fall below that required by the ordinance; the lowest found being 18.35, or .35 above, and the highest found being 23.03 candles, or 5.03 above requirement.

The average maximum pressure of the gas for the twelve months, as noted in Board's inspection room in basement of City Hall, was 3.09 inches; average minimum, 1.56 inches; average mean, 2.32 inches.

SECRETARY'S RECEIPTS.

The following itemized statement shows the receipts by the Secretary for the fiscal year 1897-8:

Repairs to pavements, including permit account.....	\$ 20,353 92
Additional charges on permits.....	160 08
Repairs to sidewalks.....	5,634 20
Constructing new sidewalks.....	3,567 57
Building permits.....	750 69
House moving permits.....	430 00
Lateral sewer connections.....	2,025 25
Public sewer connections.....	1,204 13
Rolling streets.....	6,230 85
Inspection charges paid by contractors.....	1,106 18
Inspection of gas meters.....	1,275 00
Sidewalk around new High School building.....	2,136 08
Cement and inspection La Salle Gardens sewers.....	1,353 65
Citizens' & Fort Wayne St. Ry. Co's, for building and removing pool grates, basins, etc.	1,056 00
Cement sacks returned.....	2,803 76
Freight and unloading charges, sand, Western Yard.....	598 54
Sale of old paving material.....	683 08
Sale of sawdust from yards.....	208 85
Sale of cement.....	203 20
Sale of scrap iron.....	159 39
Repairs in County offices.....	113 18
Brick tests.....	195 00
Rent of dock, E. of Randolph, S. of Atwater St., 5 years from Jan. 1, 1898.....	173 00
Repairing basin pipes.....	50 38
Sale of circle curb.....	98 47
Removing receiving basin, Park Commission.....	40 00
Sale of crushed stone screenings.....	39 45
Daniel Scotten, for repairing cave-in over sewer.....	34 48
Cement tests, new County Building.....	36 00
From City Accountant.....	34 30
W. O. Avery, putting in drain.....	11 50
D., G. H. & M. R. R., lowering curb foot of Rivard St.....	13 31
Errors in pay rolls.....	16 38
Rent of Tar Kettle.....	10 50
On account Bennett Park sidewalk.....	10 00
Use of roller at Bennett Park.....	14 38
Use of roller at Fort Wayne.....	10 00
Repairing sewers.....	12 77

Sale of oil barrels.....	14 45
J. H. Habercorn, occupying street, building material.....	5 65
Cleaning snow from sidewalks.....	6 25
Sweeping Boulevard.....	5 26
Sale of old closet, Municipal Building.....	5 00
Hauling old paving material, etc.....	7 03
Placing voting machine in election booth.....	3 60
M. C. R. R., for repairing Fort St. bridge.....	2 25
Removing trees, Sylvester St.....	1 00
Sale of bamboo fibre.....	1 12
Sale of wood, etc., at Eastern Yard.....	1 75
Sale of sewer tile.....	1 00
Total.....	\$53,007 88

COMPARISON WITH FORMER YEARS.

Received by Secretary for 1888-89.....	\$ 4,220 22
Received by Secretary for 1889-90.....	5,106 24
Received by Secretary for 1890-91.....	5,360 30
Received by Secretary for 1891-92.....	26,878 32
Received by Secretary for 1892-93.....	44,668 69
Received by Secretary for 1893-94.....	60,890 83
Received by Secretary for 1894-95.....	111,344 71
Received by Secretary for 1895-96.....	82,253 40
Received by Secretary for 1896-97.....	102,721 49
Received by Secretary for 1897-98.....	53,007 88

RECAPITULATION.

Total expenditures made under the Board during the fiscal year are here given :

General Road Fund.....	\$ 241,903 39
Public Sewer Fund.....	186,809 63
Board of Public Works General Fund.....	44,492 08
Public Building Fund.....	11,275 09
Repaving Fund.....	199,456 84
Belle Isle Bridge Fund.....	28,137 56
Eastern Market Fund.....	164 29
Western Market Fund.....	1,433 03
Road District Funds.....	122,993 37
Reservoir Fund.....	4,298 28
Assessment District, New Paving.....	261,121 93
Assessment District, Alley Paving.....	13,136 98
Assessment District, Lateral Sewers.....	65,204 33
Total.....	\$1,180,426 74

THE ROAD DISTRICT FUNDS.

The cost of cleaning streets and alleys for the fiscal year was \$122,993.37, which was low considering that the increase in paved streets—15 miles—was greater than any year since 1893. The money was raised by taxation on the wards. The following table of expenditures, with comparison with previous years, showing amount of money expended and miles of paved streets may prove of interest :

YEAR.	MILES PAVED STREETS.	EXPENDITURES FROM ROAD DISTRICT FUNDS.
1887-88	108	\$102,075 10
1888-89	121	108,187 22
1889-90	133	115,588 45
1890-91	140	133,777 95
1891-92	171	146,864 30
1892-93	192	157,016 67
1893-94	202	179,284 91
1894-95	215	151,111 75
1895-96	225	110,710 06
1896-97	235	106,716 60
1897-98	250	122 993 37

On the following pages are the tables showing the disbursements and balances of the Road District Funds :

ROAD DISTRICT FUNDS.
Condensed Statement Showing for What Expenditures Were Made.

WARDS.	Cleaning Paved Streets.	Working Streets.	Cleaning Alleys.	Sweeping Streets.	Opening Receiving Basins and Clearing Snow from Crossings.	Tools and Repairs to Tools.	Sweeper Brooms.	Cutting Trees.	Total Expendi- tures.
First.....	\$10,195 83	\$2,192 50	\$1,569 53	\$1,550 11	\$709 63	\$1,275 44	\$398 44	\$224 85	\$18,116 33
Second.....	11,938 45	920 26	2,049 89	1,282 61	956 38	1,101 54	683 94	148 60	19,081 67
Third.....	2,642 32	1,323 19	765 64	306 27	252 75	161 83	84 70	55 65	5,592 35
Fourth.....	6,273 01	963 91	1,030 80	698 65	429 13	324 45	83 56	116 30	9,919 81
Fifth.....	2,518 31	501 32	1,306 51	222 54	244 82	257 59	77 20	46 20	5,174 49
Sixth.....	3,989 43	442 84	886 16	365 45	431 99	377 25	135 83	96 05	6,725 00
Seventh.....	2,965 97	950 65	696 72	275 66	208 48	335 65	65 00	33 10	5,531 23
Eighth.....	3 483 99	1,191 50	475 28	329 60	252 52	281 17	90 98	45 45	6,150 42
Ninth.....	3,417 35	504 51	702 15	247 28	293 88	173 20	24 00	29 80	5,392 17
Tenth.....	2,553 45	1,480 95	667 39	356 42	318 18	134 73	123 02	112 75	5,746 89
Eleventh.....	2,385 11	1,551 87	526 95	230 22	199 33	162 55	22 00	29 85	5,107 88
Twelfth.....	2,691 63	1,825 61	395 50	211 12	292 69	19 60	32 00	53 35	5,521 50
Thirteenth.....	2,270 76	1,728 06	424 63	231 28	228 24	59 25	56 03	32 35	5,230 57
Fourteenth.....	1,337 65	2,986 81	388 66	144 02	249 82	15 50	41 00	25 20	5,188 66
Fifteenth.....	2,452 20	3,359 26	222 14	199 86	67 45	49 60	24 00	70 15	6,444 66
Sixteenth.....	1,201 06	3,340 19	287 92	131 70	238 22	22 40	24 00	5 50	5,250 99
Seventeenth.....	352 78	2,102 37	136 58	17 75	174 70	5 00	12 00	17 50	2,818 68
Totals.....	\$62,669 30	\$27,565 80	\$12,532 45	\$6,800 54	\$5,548 21	\$4,756 75	\$1,977 67	\$1,142 65	\$122,993 37

CONDENSED STATEMENT.
Showing Condition of Funds at Beginning and Close of Fiscal Year.

NO. OF ROAD DISTRICT.	Cash Credit Balance July 1, 1897.	Appropri- ation, 1897-98.	Actual Receipts from Appropri- ation.	Uncollect- ed Taxes.	Money Borrowed to be Paid Appropri- ation for 1897-98.	Cash Receipts from other Sources.	Total Actual Receipts.	Disburse- ments for Fiscal Year, 1897-98.	Credit Balance July 1, 1898.
First.....	\$2,963 48	\$18,000 00	\$16,810 28	\$1,189 72	.....	\$ 470 09	\$20,243 85	\$18,116 33	\$2,127 52
Second.....	3,656 99	18,000 00	16,810 28	1,189 72	.....	451 85	20,919 12	19,081 67	1,837 45
Third.....	383 36	5,000 00	4,668 97	331 03	\$400 00	245 00	5,697 33	5,592 35	104 98
Fourth.....	671 05	9,000 00	8,405 19	594 81	700 00	374 82	10,151 06	9,919 81	231 25
Fifth.....	6 95	5,000 00	4,668 97	331 03	400 00	919 84	5,995 76	5,174 49	821 27
Sixth.....	681 07	6,500 00	6,071 25	428 75	.....	470 94	7,223 26	6,725 00	498 26
Seventh.....	382 79	5,000 00	4,668 95	331 05	350 00	178 44	5,580 18	5,531 23	48 95
Eighth.....	1,621 91	6,000 00	5,604 18	395 82	.....	339 51	7,565 60	6,150 49	1,415 11
Ninth.....	162 64	5,000 00	4,668 97	331 03	400 00	266 36	5,497 97	5,392 17	105 80
Tenth.....	1,492 50	7,000 00	6,538 21	461 79	.....	330 31	8,361 02	5,746 89	2,614 13
Eleventh.....	55 50	5,000 00	4,668 97	331 03	400 00	175 66	5,300 13	5,107 88	192 15
Twelfth.....	827 22	5,000 00	4,668 97	331 03	350 00	219 28	6,065 47	5,521 50	543 97
Thirteenth.....	947 34	5,000 00	4,668 97	331 03	.....	253 70	5,870 01	5,230 57	639 44
Fourteenth.....	1,189 82	6,000 00	5,607 62	392 38	.....	191 00	6,988 44	5,188 66	1,799 78
Fifteenth.....	485 79	*8,000 00	5,480 79	329 77	250 00	230 46	6,447 13	6,444 66	2 47
Sixteenth.....	860 59	5,000 00	4,668 97	331 03	.....	159 34	5,688 90	5,250 99	437 91
Seventeenth.....	.....	12,286 55	2,008 55	278 00	.....	1,261 01	3,269 56	2,818 68	450 88

*\$2,286 55 transferred to Road District No. 17.

† Amount received from Road District No. 15.



STREET CLEANING DEPARTMENT—"WHITE WINGS BRIGADE."



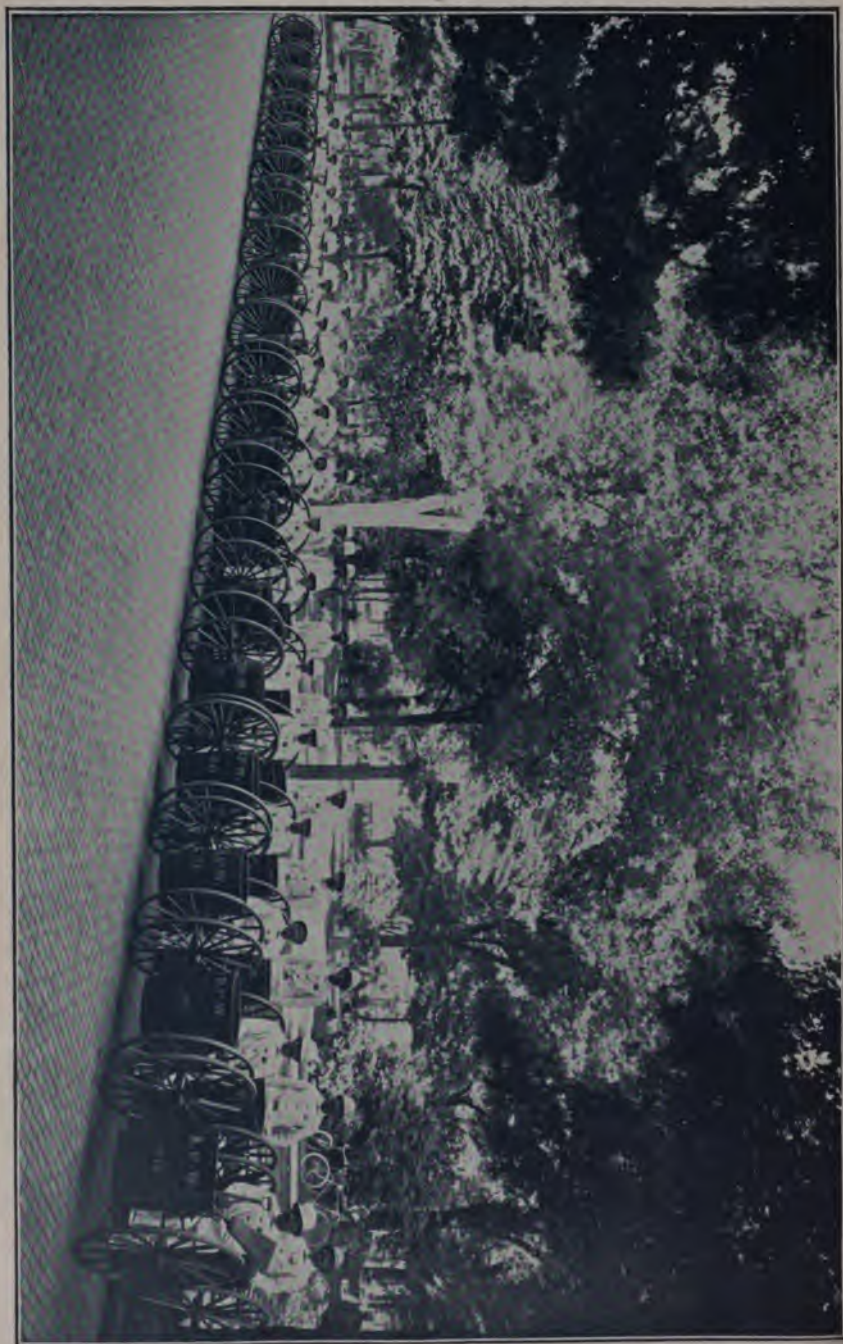
STREET CLEANING.

Upon Detroit has been bestowed the honor of being the most beautiful city in the United States. Much has been written and printed about her natural beauties. So general has the thought become among tourists that invariably those coming from other states to enjoy the trip up the lakes make arrangements to stop over and see the city—with its broad avenues, handsome buildings, lovely homes, delightful parks and beautiful river.

In addition to the natural beauties of Michigan's metropolis, for which volumes of praise has been spoken, must be added the fact that Detroit is one of the cleanest of cities. Broad avenues of asphalt and brick and lovely residence streets of cedar block would be given scarcely a passing notice by the visitors were it not for the fact that brush and broom in the hands of expert workers make the streets as scrupulously clean as it is possible for them to be.

The work of keeping the streets and alleys of a great city clean, in order that filth and dirt may be conquered and disease destroyed, is no small task. An army of men is employed, each phalanx doing its own particular work under the guidance of a foreman. Groups of workmen are watched by superintendents and carry out special work assigned to them. The whole is operated from the office of the Board, where ways are continually being devised and plans mapped out for improving the service and making the prettiest and cleanest city in the country even prettier and cleaner, if such a thing were possible.

At the close of the last fiscal year—June 30, 1897—the Board was considering the advisability of taking care of the down-town



STREET CLEANING DEPARTMENT—"WHITE WINGS BRIGADE."



avenues, especially those radiating from the City Hall, with something more modern than the gangs of laborers with brooms and hoes. The idea of a push-cart patrol system was conceived, together with a liberal distribution of litter barrels in the business districts. The thought was new to Detroit and met with much unfavorable criticism.

The Board discussed the matter and the push-cart system became a reality and litter barrels were placed at scores of down-town corners. Under the title of the "White Winged Brigade," the street cleaners, working under the direction of this Board, have become a part of the city as much as the military or civic societies, and are invited to take part in public parades. At the inception of the scheme almost everybody was prejudiced; to-day the Board has scores of letters from influential citizens asking that a "White Wing" be assigned to their street to keep it clean.

The success of the new movement exceeded the expectations of the Board, and a score of cities have adopted the plan since the beginning of operations here. The street cleaning departments of other towns are continually writing for information relative to the workings of the method, manner of equipment and cost of cleaning streets by the "White Winged Brigade."

The force consists of 50 men, under the direction of a superintendent. They are dressed in white, having two suits each, which are put on clean Mondays and Thursdays. The streets are gone over once a week by the machine sweepers and then kept in hand by the push-cart men.

The district covered by the "White Wings" includes Woodward avenue, from the river to the Boulevard; Jefferson avenue, M. C. R. depot to Belle Isle bridge; Michigan avenue, Woodward to Tenth; Grand River avenue, Woodward to High; Lafayette avenue, Griswold to Tenth; Fort street, Woodward to Tenth; Gratiot avenue, Woodward to Dequindre; Monroe avenue, Woodward to Brush; Cass avenue, Ledyard to Joy; Griswold street, Jefferson to Clifford; Cadillac



Square, Washington Boulevard, Grand Circus Park, Cass Park, Eastern Market and around the City Hall.

Outside of the territory covered by the "White Wings," the city's streets and alleys are cleaned by the regular gangs of laborers, under direction of foremen. The amount of money allowed by the Board of Estimates for road district work was \$118,500, distributed as follows: First Ward, \$18,000; Second, \$18,000; Third, \$5,000; Fourth, \$9,000; Fifth, \$5,000; Sixth, \$6,500; Seventh, \$5,000; Eighth, \$6,000; Ninth, \$5,000; Tenth, \$7,000; Eleventh, \$5,000; Twelfth, \$5,000; Thirteenth, \$5,000; Fourteenth, \$6,000; Fifteenth, \$8,000; Sixteenth, \$5,000.

The Board has aimed at efficiency in the street cleaning department as much as in any other branch of the city's work under its supervision. The ward foremen have been assisted by strong, able-bodied men, who were capable of doing a good day's work and earning the money that was paid them. In no sense has the Board allowed itself to be used as a hospital for worn-out laborers and mechanics. The half-hundred "White Wings" are all energetic workers, and it is a source of satisfaction for the Board to say that the experience of the fiscal year just closed proves this new auxiliary to the street cleaning department a pronounced success. The "White Wings" have practically cost the city nothing, for the expense has been no greater than former years considering the increased mileage of paved streets and the amount of work done in the new outlying districts, and no increase in the old-time ward funds. The down-town streets have been kept cleaner and at less expense than any time in the city's history.

The Board's system of having the paved streets gone over frequently and all holes taken care of promptly results in comfort to property owners and keeps the city free from claims for damages.

The old plank alley intersections are removed as rapidly as possible and replaced with stone and brick ones. In the down-town districts these relics of bye-gone days have entirely disappeared.



